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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/490,173	01/22/2000	John P. Carrico	2493-025	6828

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Roberts Abokhair & Mardula L L C  
11800 Sunrise Valley Drive  
Suite 1000  
Reston, VA 20191-5302

EXAMINER

FERRIS III, FRED O

ART UNIT PAPER NUMBER

2123

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/490,173	CARRICO ET AL.	
	Examiner	Art Unit	
	Fred Ferris	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

**DETAILED ACTION**

1. *Claims 1-9 have been presented for examination based. Claims 1-9 have been rejected by the examiner.*

**Drawings**

2. *This application has been filed with informal drawings that are acceptable for examination purposes only. Formal drawing will be required when the application is allowed.*

**Information Disclosure Statement**

3. *The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. For example, the specification makes reference to "Satellite Tool Kit (STK)", and "Astogator" which appear to contain information critical to the operation of the claimed invention that has not been disclosed. Hence, these references have not been considered. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the*

*applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See In re Hawkins, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); In re Hawkins, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and In re Hawkins, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).*

*The specification also makes reference to "The prior art" including a GUI for individual profiling (see specification page 2, line 7), but no prior art has been cited and no proper IDS on PTO form 1449 has been submitted.*

#### **Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**4. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.**

*The claimed invention is disclosed to be a system for sequentially profiling and solving problems in space mission analysis by allowing an analyst to solve profiles (and sub-profile solutions) for space mission planning. However, the specification is completely silent on the specifics of how the system solves problems in space mission analysis. Neither the specification, nor the claims, disclose what the space mission problems are, how the problems are solved by the system, what is specifically profiled,*

*or how it is sequentially profiled. The specification makes reference to a GUI panel allowing an analyst to initiate processes such as, specifying profiles and controls, running profiles, nesting profile sets, and defining goals (see page 6, line 10 – page 8, line 15) but does not specifically teach how the claimed invention actually realizes these processes.*

*While the specification makes reference to the “Satellite Tool Kit (STK)”, and “Astogator” programs, it gives no information on how the system actually “solves” space mission problems, or the profiles or sub-profiles, sufficient to allow one skilled in the art to make and/or use the invention. In general, the specification reads as a “wish list” of features that could be incorporated into the claimed invention, but provides little information on specifically how these features are realized. Dependent claims inherit this defect.*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

***Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

*Independent claims 1, 4, and 7 recite defining a “desired result” that represents and “adequate solution” to the problem. This limitation is vague and indefinite since the claim language does not specifically define what constitutes a “desired result” or how and “adequate solution” to the problem is derived. Dependent claims inherit this defect.*

While the specification for claimed invention is delinquent in the areas cited previously under 35 U.S.C. 112 rejections, the examiner has made prior art rejections based on the limited scope of the information contained in the specification and claims.

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**5. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent 6,048,366 issued to Ellis et al.**

Independent claims 1, 4, and 7 are drawn to:

Method, system and code for profiling and solving space mission problems by:

Creating mission analysis  
Sequence to simulate problem to be solved in space mission  
Selecting control variables to checked  
Identifying result parameters representing solution  
Establishing sub-problem profiles for solved problem  
Running profile simulations to provide solution

Regarding independent claims 1, 4, and 7: Ellis discloses satellite (spacecraft) simulator used for mission rehearsals (planning), development and testing (analysis), anomaly isolation (problems to be solved), and telemetry data streams. Ellis also discloses the generation of spacecraft position, flight dynamics, attitude information, and incorporates the use of the commercially available Satellite Tool Kit from Analytic Graphics Inc.. The simulator disclosed by Ellis allows the user to identify and select parameters and control variables via a command sequencer module and create a simulated mission based on various satellite orbit types and mission profiles. (Abstract, Summary of Invention, CL1-L39, CL3-L15, 55-67, CL5-L1-7, 35-58, CL6-L35-55, Figs. 4, 5)

Regarding dependent claims 2, 3, 5, 6, 8, and 9: As cited above, Ellis includes features for specifying control variables for particular problems and results to be achieved via the command sequencer module. Ellis obviously inherently incorporates the ability to apply starting points to simulation runs and collect solutions to problems (and sub-problems) to be solved. (CL3-L15, 55-67, CL5-L1-7, 35-58, CL6-L35-55, Figs. 4, 5)

***Claims 1-9 are also rejected under 35 U.S.C. 102(a) as being clearly anticipated by "MARC – A System for Simulation and Visualization of Space Mission Scenarios", T. Stephenson, pp. 14-19, IEEE AES Magazine, June 1989***

Regarding independent claims 1, 4, and 7: Stephenson discloses a system (MARC) for modeling the orbital dynamics of spacecraft and for generating a simulated sequence of orbital maneuvers including spacecraft thrust and modeling of celestial objects. The MARC system includes user modeling tools for creating mission scenarios (planning) including orbital paths (profiles), selecting control variables and parameters, viewing results (providing solutions), modeling problems (to be solved), and running the simulations. (Abstract, Introduction, page: 14, para. 5, page 15, para. 3-9, page 16, para. 4-8, page 17, para. 2-6, 12, page 18, para 10, Figs. 1-3)

Regarding dependent claims 2, 3, 5, 6, 8, and 9: As cited above, Stephenson includes features for specifying control variables for particular problems and results to be achieved via the MARC user interface (page 18-19). Stephenson obviously inherently incorporates the ability to apply starting points to simulation runs and collect solutions to problems (and sub-problems) to be solved.



**Conclusion**

6. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, careful consideration should be given prior to applicant's response to this Office Action.*

*U.S. Patent 5,987,363 issued to Quan et al discloses spacecraft simulation and mission planning.*

*"A Blackboard System for Planning Space Missions", G. Pearson, ACM 0-89791-320-5/89/0006/0409, ACM 1989 discloses spacecraft simulation and mission planning.*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 703-305-9670 and whose normal working hours are 8:30am to 5:00pm Monday to Friday.


Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 703-305-3900.

The Official Fax Numbers are:

Official (703) 872-9306

*Fred Ferris*, Patent Examiner  
Simulation and Emulation, Art Unit 2123  
U.S. Patent and Trademark Office  
Crystal Park 2, Room 2A22  
Crystal City, Virginia 22202  
Phone: (703) 305 - 9670  
FAX: (703) 305 - 7240  
Fred.Ferris@uspto.gov

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HUGH JONES Ph.D.  
PRIMARY PATENT EXAMINER  
TECHNOLOGY CENTER 2100